Memo dated 12th January 1907.

The accompanying extract from an article on "Some Diseases of Palms" by Dr. E. J. Butler M.B., F.L.S., Imperial Mycologist, Agricultural Research Institute, Pusa, published in the "Agricultural Journal of India" for October 1906, and containing some notes on "*Kole roga*" disease of betel-nut palms, is republished for general information. Discussion of the subject is invited.

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SOME DISEASES OF PALMS.

BY E. J. BUTLER, M.B., F.L.S.,
Imperial Mycologist, Agricultural Research Institute, Pusa.

FUNGUS diseases of palms are rare, a fortunate matter if we consider the extraordinary value of these trees to the people of tropical countries. A few have appeared in India in recent years, each apparently confined to a particular part of the country and, while due to different causes, agreeing in their general effects.

KOLE ROGA DISEASE OF BETEL PALMS.

A disease of betel-nut palms (*Areca Catechu*) has been known in the Malnad districts of Mysore particularly near Koppa for many years. It is locally termed "kole roga" or black rot. Up to the present it has not been found elsewhere and, as it does not appear to have extended much during the time it has been observed, it is probably favoured by the special climatic conditions of the locality where it occurs.

The first symptom of the disease appears at the time of flowering. A number of the flowers fall without setting fruits, and their stalks blacken and putrify. The rot gradually extends along the inflorescence and affects the stalks on which nuts are forming, causing the latter to drop while immature. Very often the damage does not stop here. The flower stalk arises from the axil of the lowest leaf and, therefore, leads directly to the base of the sweet green part at the top of the stem. This green portion consists of a number of leaf sheaths which clasp the young growing end of the palm, forming a thick protective covering to the growing point. The lowest of these sheaths becomes affected near the point of origin of the flower stalk, and a patch of rot makes its appearance at this point. The sheaths next underlying the first are then attacked and, since the internal parts are softer than those outside, the rot spreads with increasing rapidity as it approaches the apical bud. When the growing point in the centre of the bud is reached, it also is destroyed, and the whole head withers and falls off. Not alone therefore is the crop lost, but the whole tree is killed, the damage caused in the affected districts being very heavy.

In the disease spots on the leaf sheaths and also on the withered fruit stalks, a fungus of the genus *Phytophthora* is found. There is little doubt that this is the cause of the disease. The few species of *Phytophthora* are all virulent parasites, and though the well-known *Phytophthora infestans*, the cause of the potato disease, has been grown on dead substances, its development is much less vigorous than on its living host. The betel palm *Phytophthora* is evidently, from its position, anatomical characters and the enormous quantity of spores which it produces, an active parasite.

The fungus consists of a mycelium or vegetative part living within the tissues of the palm and extending out on to the surface, and of sporangia or reproductive bodies formed exclusively on the external filaments of the mycelium. The internal part consists of colourless threads lying between the cells. Here and there these filaments reach the surface and grow out into short branched threads. At the ends of these, and also sometimes on short stalks set laterally, the sporangia are produced. They are pear-shaped bodies with the broad end attached to the stalk, from which they fall easily. In water they germinate rapidly, giving rise each to a dozen or more tiny swimming spores, the zoospores. These swim off in all directions and after a time come to rest, get quite round and in their turn germinate by putting out a thread. It is by means of these sporangia and zoospores that the disease is propagated.

Since for their proper germination *Phytophthora* sporangia require to fall into water, most if not all the diseases due to these fungi are closely dependent on conditions of moisture and rainfall. For the spread of the betel-nut disease, which appears to begin on the flower and fruit stalks, it is necessary that the moisture conditions should be favourable during the time of setting of the fruit. The heavy monsoon rains in these parts of Mysore begin in June and last until the end of August or September. The following observations may serve to explain the increase in severity of the disease in recent years, and also its restriction to a single area.

When the disease first made its appearance, some thirty or forty years ago, it was customary to harvest the nuts in November or December. For the last twenty years the harvest has become earlier, being sometimes collected as soon as July or August. This indicates a change in the habit of the tree, due either to a different method of treatment or the introduction of an earlier variety. The effect of this is to expose the fruit stalks to infection at a time when the

moisture conditions are most favourable for its growth. In some gardens the harvest is still gathered in December, and in these I was informed that there is little complaint of loss from the disease. In Mudgere and adjoining parts of Mysore the harvest is ordinarily in December and January, and the disease does not appear to have obtained a hold in this district. Similarly, though the whole of the country approching the ghats obtains a very heavy rainfall, the harvest is later than at Koppa in most places, and here also I was informed disease does not appear. The cultivators themselves are aware of the deleterious effects of rainfall during the maturation of the nuts. At Koppa they have devised a remarkable method of protecting the bunches during the monsoon. Before the commencement of the rains each bunch is covered with a thatch made of the leaves or expanded flower stalks of the palm. It is stated that considerable benefit has resulted from this practice.

In endeavouring to check the disease, two objects should be aimed at. The first is to revert, if possible, to the late harvested crop of former years. This may be possible by altering the methods of cultivation now in use in the betel gardens. To ascertain if this is possible, a much fuller inquiry is necessary than I was able to undertake. It may be that by a less forcing treatment—the palms are in many places trenched to a depth of six inches, the trench filled with cattle manure, and a mulch of leaves, new soil, etc., applied round their bases—a later crop would be obtained. Experiments are necessary to settle this point and also the degree to which it will be really effective in preventing the spread of the disease. Search should also be made for later varieties of betel palm, if such exist.

The other and more efficient method of prevention is the improvement of the covers used for the bunches. The covers now in use are far from satisfactory. They dry and crack in fine weather, and during long continued rain rot and fall to pieces. They are tied over the bunches as soon as the rains begin, and no disadvantage appears to result from the shade which they cause. But leaky covers are likely to be worse than none at all, for they check evaporation and ventilation, and preserve a moist atmosphere around the bunches which is bound to favour the growth of the fungus. The use of tin covers would, I believe, not be beyond the means of the well-to-do owners of gardens, and would be far more effective than the palm ones. An educated native of Koppa informed me that he had made experiments with zinc covers with very good results, the covered nuts remaining quite sound while those uncovered rotted. The tin covers would last for several years and, if made on a sufficiently large scale, would not cost a sum beyond the reach of the ordinary betel grower, and would repay their cost in a single year in all probability. It is well worth while endeavouring to introduce the use of these tin covers in the affected districts as a substitute for the leaf ones.

Rainfall Table of the Mysore State

for the month of December 1906.

Rainfall Table of the Mysore State

Meteorological Division	District	Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	1	19	20	21
MYSORE	Bangalore	Bangalore	...	...	...	...	...	...	...	0·15	...	...	...	...	...	..	...	...	...	...	...	0·57	...
		Hoskote	...	...	...	...	..	...	...	0·12	..	...	...	...	...	...	...	...	...	...	...	0·65	0 10
		Dodballapur	...	...	...	...	...	...	...	...	...	...	...	...	...	..	.	...	..	...	..	0·25	..
		Nelamangala	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	1·88	0·02
		Kankanhalli	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	.	..	...	1·26	0·11
		Magadi	...	...	...	...	.	...	...	0·03	...	...	...	...	...	...	..	...	...	...	...	0·50	0·05
		Closepet	...	...	...	...	...	...	0·02	0·11	0·01	...	...	...	...	...	...	...	...	...	...	2·90	...
		Anekal	...	...	...	...	...	...	...	0·03	...	...	...	...	...	...	...	...	...	...		0·40	0·25
		Devanhalli	...	...	...	...	...	...	...	0·10	.	...	...	...	...	...	...	...	...	..	0·35	1·65	..
		Channapatna	...	...	...	...	...	...	.	0·13	...		...	...	...	...	...	...	...	...	...	3·64	0·07
	Kolar	Kolar	...	...	..	...	...	0·03	...	0·40	0·17	...	...	...	...	..	...	...	...	0·09	0·41	0·49	0·02
		Bowringpet	...	...	...	...	...	...	..	0·03	0·02	...	...	...	...	...	...	...	...	0 06	1·23	1·93	0·06
		Chintamani	...	.	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	0·41		0·66	...
		Mulbagal	...	...	...	...	...	.	...	0·10	...	...	...	...	...	...	...	...	...	...	1·55	1·35	...
		Sidlaghatta	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	0·24	0·12	0·11	...
		Chikballapur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·12	..	...
		Bagepalli	...	...	...	.	...	...	0·10	...	...	...	...	...	...	...	...	...	...	0·15	1·90	0·20	...
		Goribidnur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·50	0·40	...
		Malur	...	...	..	...	...	0·09	...	0·11	...	...	...	...	...	...	...	..	...	...	0·67	0·57	0·78
		Srinivaspur	...	..	..	.	...	...	...	..	..	...	...	...	...	...	...	..	...	0·13	0·09	1·40	...
		Gudibanda	...	...	.	...	...	...	..	...	0·03	...	...	...	...	...	...	...	...	...	2·00	0·40	...
	Tumkur	Tumkur	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	..	...	...	1·02	...
		Maddagiri	...	...	...	...	...	...	..	0·05	...	..	...	...	...	...	...	..	...	...	0·70	0·30	...
		Chikuayakanhalli	...	...	...	..	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	0·50	...
		Sira	..	...	...	..	...	...	...	...	...	...	...	..	...	...	...	...	...	..	0·20	0·13	...
		Gubbi	...	...	...	...	...	.	...	...	...	...	...	..	.	...	...	...	...	...	...	0·84	.
		Tiptur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	0·55	...
		Pavagada	.	..	...	...	...		...	...	...	...	...	...	...	...	...	...	...	..	1·52	...	..
		Kunigal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		1·47	...
		Koratagere	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·30	...
		Turuvekere	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·75	...
	Mysore	Mysore	..	...		...	...	...	..	...	...	...	...	...	...	...	...	...	.	..	0·86	0·60	..
		Chamrajnagar	..	...	...	...	...	...	...	0·10	...	...	...	...	...	...	...	...	..	...	...	1·21	0·17
		Seringapatam	...	...	...	...	...	...	...	...	0·12	...	...	...	...	...	...	...	...	...	0·64	1·79	..
		Hunsur	...	..	...	...	...	...	...	.	...	...	...	...	...	..	...	...	...	...	...	0·02	0·12
		Yedatore	..	..	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	0·20	0·75
		Heggaddevankote	..	..	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	..	0·75	0·20
		Gundlupet	..	...		...	..	...	...	0·10	0·32	...	..	...	...	...	...	...	...	.	...	1·20	...
		Nanjangud	...	..	...	...	...	...	...	.	...	...	...	...	...	...	...	..	...	...	...	1·16	...
		T.-Narsipur	...	...	...	...	...	...	...	...	...	...	...	0·36	...	...	...	...	...	...	...	1·43	...
		Malvalli	...	...	...	...	...	...	...	0·10	.	...	...	...	...	...	...	...	...	...	...	0 74	...
		Mandya	...	...	...	...	...	...	..	...	0·16	..	...	...	...	...	...	...	...	...	...	0·83	...
		Krishnarajpete	...	...	...	...	...	..	...	.	...	...	...	...	...	...	...	...	...	...	...	0·55	...
		Nagamangala	...		...	...	...	...	...	0·07	...	...	...	...	...	...	...	...	...	..	...	1·97	...
	Hassan	Hassan	...	...	...	...	...	...	...	...	0·06	..	...	...	...	..	...	..	..	...	...	2·40	...
		Manjarabad	...	...	...	...	...	...	...	...	0·03	...	...	...	...	...	...	...	..	...	...	0·48	...
		Arkalgud	...	...	...	...	...	...	...	...	0·22	...	...	...	...	...	...	...	...	...	...	0·30	0·07
		Belur	...	..	...	...	...	...	...	...	...	0·10	...	...	...	...	...	..	...	...	...	0·20	...
		Channarayapatna	...	...	...	...	...	...	...	...	0·35	...	...	...	...	...	...	...	...	...	...	2·90	0·15
		Arsikere	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·03	0·18
		Holé-Narsipur	...	..	...	...	.	...	...	...	...	...	...	...	...	...	...	...	...	..	...	0·47	...
		Alur	...	...	...	...	...	...	.	0·10	0·08	0·18	...	..	...	...	..	...	...	...	...	0·38	...
	Shimoga	Shimoga	...	...	..	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·22	...
		Channagiri	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	0·20	...	...
		tionnali	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·11	0·02	0·02
		Shikarpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·40	...
		Sorab	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·78	...
		Sagar	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·43	0·12
		Nagar	...	...	...	...	...	...	.	...	...	..	...	...	...	...	...	...	...	...	..	...	0·25
		Tirthahalli	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	0·20	...
		Kumsi	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	..	0·44	0·07
	Kadur	Chikmagalur	...	..	...	...	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...	0·62	...
		Kadur	...	...	...	...	...	...	...	...	0·70	...	...	...	...	...	...	...	...	...	0·16	0·82	..
		Tarikere	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·10	...
		Koppa	...	...	..	.	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	0·63	...
		Mudgere	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·43	...
		Yedahalli	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sringeri	...		...	..	...	...	...	...	0·18	...	...	...	...	...	...	...	...	...	...	2·10	0·23
	Chitaldrug	Chitaldrug	..	...	...	...	...	...	...	...	..	..	...	...	...	...	...	...	...	...	0·10	0·09	...
		Challakere	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...	0·34	...	...
		Hiriyur	...	.	.	.	...	...	...	..	..	...	..	...	...	...	...	...	...	...	...	...	...
		Holalkere	...	..	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	0·05	...
		Davangere	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...	0.07	...	...
		Molakalmuru	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·11
		Jagalur	...	..	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	..	..	...	...
		Hosdurga	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	0·43	...
		Harihar	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	0·15	0·09	...

GOVT. OF H. H. THE MAHARAJA OF MYSORE,
GEN. AND REV. SECRETARIAT,
Bangalore, the 26th January 1907.

for the month of December 1906.

22	23	24	25	26	27	28	29	30	31	No. of rainy days in Dec. 1906	No. of rainy days in Dec. 20 years' average	Total rainfall for the month of Dec. 1906	Total rainfall for the month of Dec. 20 years' average	Heaviest rainfall for the month of Dec. 1906	Total rainfall from 1st Oct. to 31st Dec. 1906	Total rainfall from 1st Oct. to 31st Dec. 20 years' average	Station	District	Meteorological Division
...	...	...	...	...	...	...	0·30	...	...	3	1·2	1·02	0·50	0·57	9·62	11·09	Bangalore ..	Bangalore	MYSORE.
...	...	...	...	...	..	0·17	0·10	...	...	5	1·0	1·14	0·63	0·65	11·29	8·55	Hoskote ...		
..	...	...	...	...	...	0·04	0·32	...	0·14	3	0·8	0·75	0·87	0·32	3·55	9·30	Dodballapur ...		
...	...	...	..	...	...	...	0·22	...	0·19	3	0·9	2·31	0·57	1·88	13·40	6·85	Nelamangala ...		
...	..	...	..	...	0·03	0·30	0·20	...	...	4	1·4	1·90	0·46	1·26	12·40	7·77	Kankanhalli ...		
...	...	..	...	...	...	...	0·40	...	..	2	1·3	0·98	0·45	0·50	13·19	9·06	Magadi ...		
...	...	...	...	...	...	0·27	...	...	...	3	0·4	3·31	0·27	2·90	11·83	8·65	Closepet ...		
.	...	...	..	...	...	0·12	0·10	...	0·02	4	1·5	0·92	0·91	0·40	6·04	9·69	Anekal ...		
...	...	...	...	...	...	..	0·26	0·65	1·61	6	0·4	4·62	0·29	1·65	14·30	5·96	Devanhalli ...		
...	...	...	...	...	...	0·28	...	...	.	3	1·5	4·12	0·98	3·64	13·18	13·07	Channapatna ...		
											Average	**2·11**							
....	...	...	...	...	...	0·58	...	...	..	5	2·2	2·19	0·95	0·58	9·11	9·98	Kolar ..	Kolar	
...	...	...	...	...	...	0·36	...	...	...	3	2·4	3·69	1·03	1·93	9·53	12·69	Bowringpet ...		
..	...	...	..	...	...	0·81	...	..	0·83	4	3·1	2·71	1·69	0·83	7·57	12·04	Chintamani ...		
...	...	...	...	...	...	0·96	...	...	...	4	2·1	3·96	1·35	1·55	10·01	10·66	Mulbagal ...		
...	...	...	...	...	...	1·38	...	0·12	2·60	6	4·1	4·57	0·80	2·60	10·82	9·44	Sidlaghatta ...		
....	...	...	...	...	...	0·63	...	...	0·55	3	1·3	1·30	0·60	0·63	9·27	9·97	Chikballapur ...		
...	...	..	...	...	...	1·00	...	...	0·63	6	0·6	3·98	0·41	1·90	10·16	6·90	Bagepalli ...		
...	...	...	...	...	...	0·10	0·09	...	0·60	4	0·6	1·69	0·28	0·60	7·56	7·90	Goribidnur ...		
...	...	...	...	...	...	0·23	...	...	1·23	6	1·0	3·48	0·47	1·23	10·18	8·22	Malur ...		
...	...	...	...	...	0·05	1·84	...	...	0·19	4	0·9	3·70	0·41	1·84	11·43	8·67	Srinivaspur ..		
...	...	...	...	...	0·65	...	...	...	1·61	4	1·9	4·69	0·48	2·00	11·27	8·57	Gudibanda ...		
											Average	**3·27**							
...	...	...	...	...	...	0·11	1·50	..	0·17	4	1·1	2·80	0·53	1·50	13·58	9·78	Tumkur .	Tumkur	
0·10	...	..	...	...	...	0·20	0·68	...	..	5	0·8	2·03	0·44	0·70	16·38	6·09	Maddagiri ...		
...	...	...	...	...	...	...	0·20	...	..	2	0·6	0·70	0·46	0·50	8·72	7·09	Chiknayakanhalli		
...	...	...	..	...	...	0·18	..	...	0·38	4	0·5	0·89	0·24	0·38	7·05	4·81	Sira ...		
...	...	...	...	...	...	...	0·14	...	0·06	2	1·6	1·04	0·61	0·81	11·23	9·56	Gubbi ...		
...	...	...	...	...	...	.	...	...	0·48	2	2·0	1·03	0·97	0·55	20·54	11·91	Tiptur ...		
...	...	...	...	...	..	0·58	0·42	...	...	3	0·8	2·52	0·32	1·52	5·80	6·28	Pavagada ..		
...	...	...	...	...	0·04	0·12	0·07	...	.	2	0·3	1·70	0·24	1·47	9·84	8·47	Kunigal ...		
...	...	...	...	...	...	...	0·90	...	...	2	1·0	1·20	0·51	0·90	8·73	6·68	Koratagere ...		
...	...	...	...	...	...	0·28	...	...	...	2	1·5	1·03	0·64	0·75	11·18	8·78	Turuvekere ...		
											Average	**1·49**							
0·20	...	...	...	..	..	0·56	0·08	...	..	4	1·4	2·30	0·74	0·86	9·33	10·16	Mysore ...	Mysore	
0·13	...	...	..	...	...	0·90	...	...	...	5	1·3	2·51	0·61	1·21	8·66	7·66	Chamrajnagar ...		
...	...	...	...	...	...	0·44	0·06	0·11	...	5	1·0	3·16	0·82	1·79	9·63	9·77	Seringapatam ...		
0·14	...	...	...	...	...	0·32	.	.	...	3	1·2	0·60	0·81	0·32	7·44	9·17	Hunsur ...		
...	...	...	...	...	...	0·60	.	...	...	3	0·8	1·55	0 81	0·75	8·88	9·61	Yedatore ...		
...	...	..	...	...	...	0·25	...	...	...	3	0·8	1·20	0·53	0·75	10·01	6·80	Heggaddevankote		
0·51	...	..	...	..	...	0·49	.	..	..	5	1·9	2·62	0·52	1·20	12·42	8·14	Gundlupet ...		
...	...	...	...	...	...	0·49	0·37	...	...	3	0·9	2·02	0·56	1·16	4·67	9·08	Nanjangud ...		
...	...	..	...	...	...	0·47	0·35	...	...	4	1·7	2·61	1·21	1·43	7·06	10·15	T.-Narsipur ...		
...	...	...	...	...	...	0·39	0·33	...	..	4	1·3	1·56	0·33	0·74	11·03	8·82	Malvalli ...		
...	...	...	...	...	...	0·65	0·49	...	...	4	1·0	2·13	0·92	0·83	7·10	11·25	Mandya ...		
...	...	...	...	...	...	0·30	.	...	...	2	0·8	0·85	0·46	0·55	12·75	9·91	Krishnarajpete...		
...	...	..	...	...	...	..	...	0·42	...	2	1·4	2·46	0·57	1·97	11·79	9·64	Nagamangala ...		
											Average	**1·97**							
0·43	...	...	...	...	...	0·12	0·11	...	...	4	1·5	3·12	1·00	2·40	14·08	10·21	Hassan ...	Hassan	
2·45	.	...	...	...	...	0·17	...	...	...	3	1·3	3·18	0·98	2·45	12·91	11·20	Manjarabad ...		
0·18	...	...	...	...	...	0·47	...	...	0·42	5	1·0	2·16	0·67	0·80	8·90	7·38	Arkalgud ...		
1·11	...	...	...	...	...	0·25	...	...	.	4	1·5	1·66	0·68	1·11	12·15	8·82	Belur ...		
0·10	...	...	...	..	..	0 25	...	..	..	5	0·7	3·75	0·70	2·90	15·10	8·16	Channarayapatna		
...	...	...	..	...	...	...	0·52	...	...	3	1·9	2·73	1·11	2·03	13·34	10·42	Arsikere ...		
0·08	...	...	...	...	...	0·37	0·07	...	1·80	3	1·1	2·79	0·94	1·80	10·37	10·66	Holé-Narsipur ...		
1·82	...	...	...	...	...	0·12	...	...	...	5	...	2·18	..	1·32	16·64	...	Alur ...		
											Average	**2·70**							
0·45	...	..	...	...	...	0·08	0·06	...	0·14	3	0·8	0·95	0·48	0·45	7·70	7·32	Shimoga .	Shimoga	
0·40	...	...	...	..	...	0·40	1·10	...	0·40	5	0·7	2·50	0·30	1·10	11·82	5·63	Channagiri ...		
1·68	...	...	...	..	...	0·04	0·35	...	...	3	0·6	2·22	0·30	1·68	4·80	6·16	Honnali ...		
...	...	...	...	...	...	...	0·70	..	...	2	0·8	1·10	0·24	0·70	7·19	6·01	Shikarpur ...		
0·77	...	...	...	..	.	...	2·02	0·03	..	3	0·3	3·60	0·21	2·02	6·67	5·97	Sorab ...		
0·15	...	..	...	...	...	...	2·20	0·24	...	5	0·6	3·14	0·21	2·20	9·46	6·15	Sagar ...		
0·85	...	...	...	...	...	...	0·50	.	...	3	1·0	1·60	0·42	0·85	10·45	10·48	Nagar ...		
1·85	...	...	..	...	...	0·07	0·20	...	...	3	1·8	2·32	0·83	1·85	7·89	13·09	Tirthahalli ...		
0·14	...	...	.	...	...	0·23	0·29	0·07	...	4	0·8	1·24	0·14	0·44	5·39	6·04	Kumsi ..		
											Average	**2·07**							
0·96	...	...	..	...	...	0·67	...	...	0·19	4	1·7	2 44	0·80	0·96	11·88	10·85	Chikmagalur ...	Kadur	
1·29	...	...	...	...	...	0·28	...	...	...	5	1·3	3·25	1·13	1·29	9·18	8·58	Kadur ...		
0·20	...	...	...	...	...	...	0·60	...	...	3	0·8	0·90	0·57	0·60	9·41	7·20	Tarikere ...		
0·05	...	..	...	...	...	0·16	.	0·41	...	3	1·3	1·25	0·55	0·63	9·43	9·97	Koppa ...		
2·30	...	.	...	...	...	0·22	0·05	...	..	3	1·1	3·90	0·74	2·30	13·77	13·58	Mudgere ...		
0·40	...	...	...	...	...	0·25	...	...	...	2	1·5	0·65	0·58	0·40	3·15	8·67	Yedahalli ...		
1·27	...	..	...	..	...	..	...	0·03	0·12	5	...	3·93	...	2·10	13·66	...	Sringeri ...		
											Average	**2·20**							
...	...	...	..	.	...	0·46	1·39	..		3	1·0	2·04	0·45	1·39	6·70	7·83	Chitaldrug ..	Chitaldrug	
...	...	...		..	...	0·15	0·73	0·85	0·08	4	0·5	2·15	0·10	0·85	10·69	4·90	Challakere ..		
...	...	...	...	..	...	0·49	0·45	0·80	...	3	0·4	1·74	0·43	0·80	4·11	5·69	Hiriyur ...		
...	...	...	...	...	...	0·24	0·35	...	2·06	3	0·4	2·70	0·19	2·06	9·88	7·70	Holalkere ...		
0·15	...	...		...	...	0·05	1·36	...	...	2	0·4	1·63	0·19	1·36	5·15	4·92	Davangere ...		
...	...	...	...	...	...	0·60	1·34	...	...	3	0·3	2·05	0·12	1·34	9·14	7·21	Molakalmuru ...		
...	...	...	...	...	...	0·22	2·63	...	...	2	0·5	2·85	0·15	2·63	7·79	4·89	Jagalur ...		
...	...	...	..	...	...	0·16	0·96	...	0·95	4	0·6	2·50	0·37	0·96	12·52	8·20	Hosdurga ...		
1·40	...	...	...	...	...	...	0·06	...	..	2	..	1·70	...	1·40	7·67	...	Harihar ...		
											Average	**2·15**							

Average for the State **2·24**

K. S. CHANDRASEKHARA AIYAR,
Secy. to Govt., Gen. & Rev. Depts.

BANGALORE CITY MUNICIPALITY.

பெங்களூர் சிடி முனிசிபாலிடி

நோடீசு.

மைசூர் சர்காரால் 1906ஹு அக்டோபர்மீ 30உ யாகிய, 3350 (527-05)—4ம் நம்பர் ப்ரெசிடிங்ஸ்னுல் மஞ்சூர் செய்யப்பட்ட அதிகாரத்தினுல் பெங்களூர் சிடி ஆக்ட்ரூய் பைலா வின் 3வது க்ளாசை இதனடியில் கண்டபடி திருத்திப் போடப்பட்டிருக்கிறது.

ஆக்ட்ரூய் சுங்கத்துக்கு சம்பந்தப்பட்ட இதனடியில் கண்டிருக்கும் வஸ்துக்களை லிசென்சு அடையாமல் மொத்தமாயாவது சில்லரையாயாவது யாருகிலும் விற்பனை செய்வது சட்டத்துக்கு விரோதம்.

1. எந்த ரூபமான புகை இலையும்.
2. வெற்றிலை.

இந்த ரூலின் பொருட்டு அடியில் கண்டபடி லிசென்சு வரி ஏற்பாடு ஆயிருக்கிறது.

	ரூ.	அ.	பை.	
மொத்த வியாபாரிகள்	5	0	0	ஒரு வருஷத்துக்கு.
சில்லரை வியாபாரிகள்	1	0	0	

M. G. KRISHNASAMI RAO,

For *President, Municipal Commission,*

Bangalore City.

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BANGALORE CITY MUNICIPALITY.

بنگلور سٹی میونسپالٹی

(:— اِطلاع —:)

بتاریخ ۱۳ وین ڈسمبر ۱۹۰۶ع *

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مرقومۃ الذیل فقرۂ سوم سائیر قوانین جیساکہ تجویز کئے گیا تھا منظور ہے ۔ ترمیم شدہ قاعدۂ ذیل مین تحریر ہے *

(دو) مرقومۃ الذیل سائیر کے اَشیا کوئي شخص اِیکمشت ہو یا چلر بغیر لیسنس کے فروخت نہین کر سکتا *

(۱) ـ تمباکو کسي وضع مین بھي ہو *
(۲) ـ پان سپیاري *

اِس قاعدہ کے لئے مرقومۃ الذیل اُجرت ہوگي *

	روپیہ آنہ پائي
اِیکمشت فروخت کرنے والے	۵ ... ...
چلر فروخت کرنے والے	۱ ... ...

ـ (سالیانہ لیسنس*)

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